

# Snow Depth and Traffic Monitoring

**Pinedale Anticline  
And Surrounding Areas**

# Background

- 2008 PAPA ROD
- Wildlife/Habitat Monitoring Required
- Snow Conditions & Traffic Volumes Included
- Data Collected May Be Included in Analysis of Certain Species
- Asset Contracted to Monitor Snow/Traffic



# Snow Monitoring Routes and Traffic Monitoring Area





# Snow Monitoring

- 5-foot tall PVC gauges
- Markings can be easily viewed thru binoculars or spotting scope from nearby access roads



# Snow Depth Monitoring

- Installed end of Nov/beginning Dec 2012 to monitor snow depth accumulations at 55 PAPO-approved locations within the PAPA and reference areas.
- Installed to include representations from the following aspects: North, South, East, West, Ridge, and Drainage.
- Significant weather events and snow depth differences between visits were also noted for each station.
- Stations monitored every 2 weeks from December 2012 through April 2013.

# Snow Depth 2011/2012 Summary

## Monthly Averages per Route

	December	January	February	March	April	May
<b>Boulder</b>	2.60	6.68	11.03	7.43	0.00	null
<b>Cottonwood Ryegrass</b>	4.15	7.73	10.50	6.03	0.00	null
<b>Mesa Rd -Industrial Rd</b>	2.53	5.10	8.25	4.11	0.00	null
<b>East Green River Rd</b>	3.10	5.34	7.98	3.72	0.00	null
<b>Hwy 189</b>	2.85	5.70	8.93	4.50	0.00	null
<b>Hwy 191</b>	2.26	5.40	9.84	4.50	0.06	null
<b>Hwy 351</b>	2.02	3.73	5.60	2.70	0.00	null
<b>Middle Crest Rd</b>	2.16	3.48	6.48	4.50	0.00	null
<b>Paradise Rd</b>	1.23	4.20	8.60	4.50	0.00	null
<b>Speedway</b>	1.60	3.68	5.81	2.44	0.00	null
<b>Meadow Cyn Rd</b>	3.63	5.25	6.53	2.48	0.00	null

# Snow Depth 2010/2011 Summary

## Monthly Averages per Route

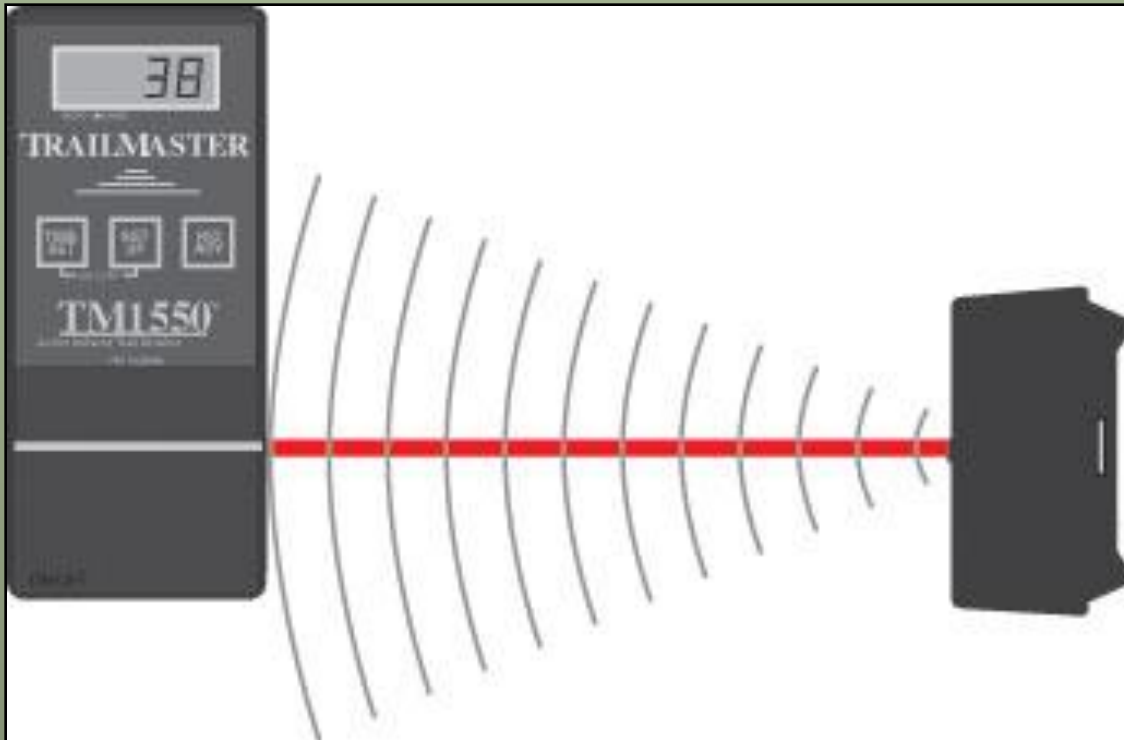
	December	January	February	March	April	May
<b>Boulder</b>	6.56	10.65	12.04	15.65	2.85	0.00
<b>Cottonwood Ryegrass</b>	6.00	9.03	9.08	11.38	0.18	null
<b>Mesa Rd -Industrial Rd</b>	6.13	7.96	11.12	13.97	3.92	0.00
<b>East Green River Rd</b>	5.01	7.62	7.92	10.40	0.00	null
<b>Hwy 189</b>	5.85	9.75	10.24	14.23	0.00	null
<b>Hwy 191</b>	8.49	11.36	13.01	16.74	2.40	0.00
<b>Hwy 351</b>	6.53	7.25	6.87	9.13	0.10	null
<b>Middle Crest Rd</b>	5.94	10.40	14.10	18.12	0.00	null
<b>Paradise Rd</b>	5.60	7.60	8.40	10.93	0.20	null
<b>Speedway</b>	4.43	8.74	8.70	10.68	0.00	null
<b>Meadow Cyn Rd</b>	5.74	9.71	9.34	12.70	0.00	null

# Snow Data Comparisons

Comparison of Season Averages per Route			
<u>ROUTE</u>	Season		
	2009-2010	2010-2011	2011-2012
Boulder	2.24	7.96	5.55
Cottonwood/Ryegrass	2.58	7.13	5.68
Mesa Rd -Industrial Rd	2.19	7.18	4.00
East Green River Rd	1.87	6.19	4.03
Hwy 189	2.57	8.01	4.40
Hwy 191	2.63	8.67	4.41
Hwy 351	1.93	5.98	2.81
Middle Crest Rd	2.93	9.71	3.32
Paradise Rd	1.73	6.55	3.71
Speedway	2.95	6.51	2.71
Meadow Cyn Rd	3.21	7.50	3.58
Season Overall Average	2.44	7.40	4.02



# Traffic Monitoring



- Uses an invisible active infrared light beam
- Can be easily set for specific game/traffic
- Each time a vehicle passes through the infrared beam, the event is recorded
- Records date and time of each event
- Can store over 1000 events
- Non-Volatile memory
- Can be password protected

# Traffic Monitoring



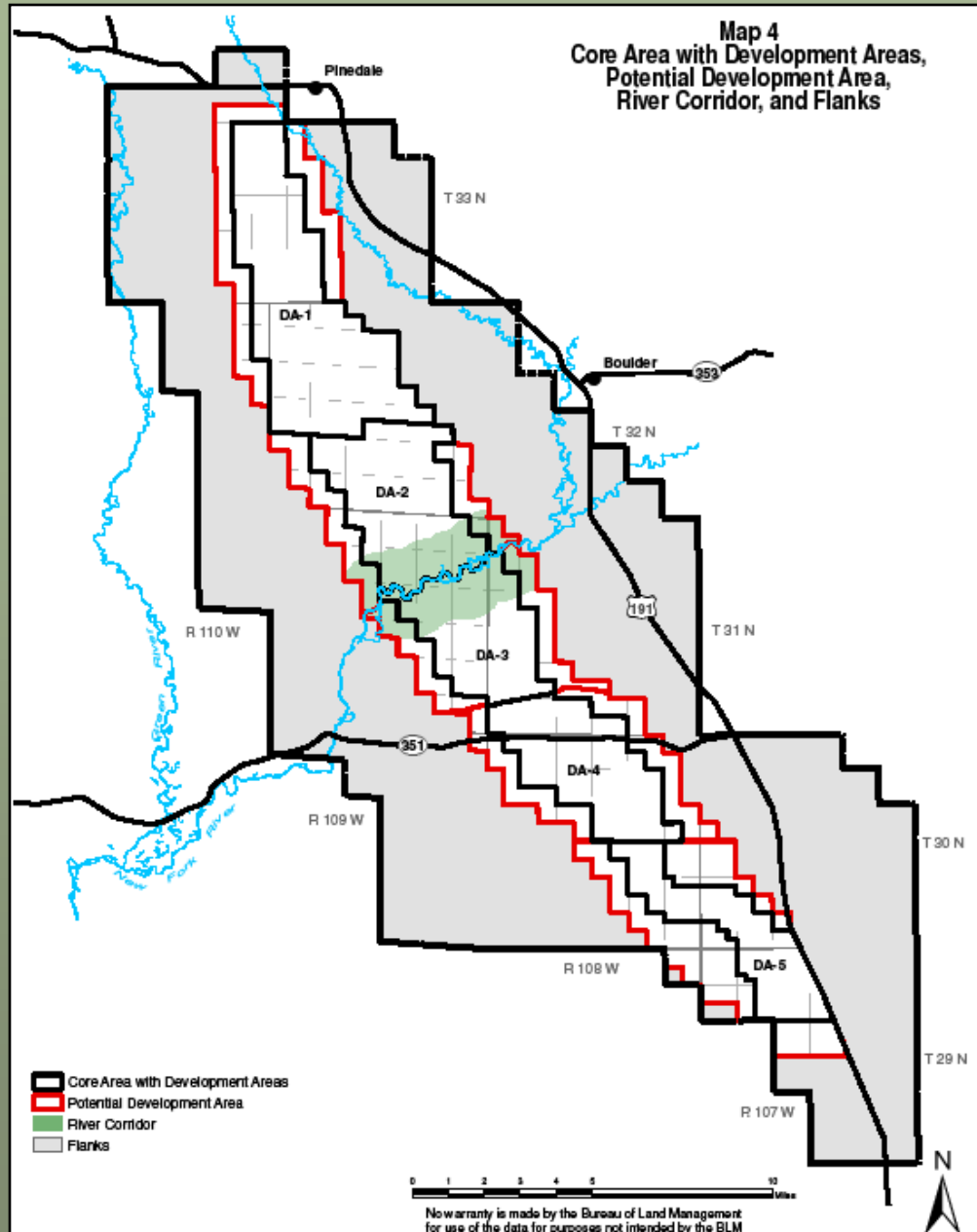
- Weather-proof (Temp. range: -40°F to 130°F)
- Operates 8 months to a 1 year on C-cell batteries.\*
- Can collect event information which will show patterns of traffic movement.

# Traffic Monitoring

- Installed in early December 2011 to monitor traffic at 60 PAPO-selected locations within the PAPA.
- Remained active until May 2012 to monitor human activity levels throughout the field.
- Data downloaded every 7-10 days.
- Data examined frequently for QA/QC



**Map 4**  
**Core Area with Development Areas,**  
**Potential Development Area,**  
**River Corridor, and Flanks**



# Traffic RAW Data Comparisons

Comparison of Season Totals per Development Area (Ave Per Day Per Month)			
Development Area (DA)	Season		
	2009-2010	2010-2011	2011-2012
Stewart Point	524	825.7	819.4
DA1	2056	1196.1	2208.6
DA2	4746	2876.1	3183.9
DA3	1581	1430.7	831.6
DA4	5319	6680.0	6688.7
DA5	1330	955.9	744.9
PAPA Season Total	15556	27928.9	22961.9



# Any Questions?

